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Press Release

SUSU supercomputer again becomes the most energy efficient Russian system in Green500 rating

This system is a de facto energy efficiency leader in CIS countries

Moscow, July 3, 2012. — SKIF-Aurora SUSU supercomputer installed at a supercomputer center in South Ural State University (Chelyabinsk, Russia) becomes the most energy efficient Russian HPC system listed in a new edition of Green500 rating (www.green500.org) for the second time in a row, occupying 158th position. The computing system at SUSU is a de-facto energy efficiency leader among all supercomputers in CIS countries. According to Green500, SKIF-Aurora SUSU supercomputer has an energy efficiency of 349.78 MFLOPS per Watt.

Currently there are only five Russian supercomputers in Green500, their number decreased more than twice compared to the last year's rating. Green500 includes world's most energy efficient computing clusters (by performance-to-energy consumption ratio). The rating is calculated and published twice a year based on Top500 list of world's most powerful supercomputers.

SKIF-Aurora SUSU supercomputer has been developed by RSC Group and based on RSC Tornado innovative architecture that uses advanced direct liquid cooling for standard server boards (initially created for traditional systems with air-cooled electronic parts) with Intel® Xeon® processors. It has a peak performance of 117 TFLOPS and was built on the basis of the highest-performing at that time Intel® Xeon® X5680 processors with the clock speed of 3.33 GHz and heat dissipation of 130 W, without using graphics accelerators.

The system's leading position among all Russian supercomputers listed in Green500 demonstrates the fact that energy efficiency depends not on graphics accelerators, but on know-how for building of energy efficient supercomputers based on powerful processors and advanced liquid cooling. According to RSC specialists' estimates, since the first computing cluster has started operation in SUSU in 2009 and after the deployment of several other key supercomputing projects in Roshydromet – Russian's Federal Service for Hydrometeorology and Environmental Monitoring, (35 TFLOPS) and MIPT – Moscow Institute of Physics and Technology, (41.5 TFLOPS) the total energy savings thanks to liquid cooling usage reached 4.5 million kWh.

Currently SKIF-Aurora SUSU is on the 4th position in Top50 of most powerful supercomputers in CIS countries (March 2012), as well as on the 185th position in the latest edition of Top500 rating of the world's most powerful supercomputers (June 2012). The computing cluster's best result in Top500 was 87th position in the year's ago edition of the rating (June 2011).

"The fact that the most powerful supercomputing system built by RSC Group is de facto the most energy efficient HPC system in Russia and CIS countries, as shown in the new edition of Green500 rating, is the best evidence of our successful work. Innovative and energy efficient RSC Tornado architecture as a basis for the most of SUSU supercomputer's computing nodes is undoubtedly a very significant part of this success", – said Alexey Shmelev, COO at RSC Group.

About RSC Group

RSC Group is Russia's and CIS leading developer and system integrator of next-generation supercomputing solutions based on Intel architecture and technology, advanced liquid cooling and its own extensive know-how. The company's potential allows for practical creation of the most energy efficient solutions with record PUE, realization of industry-highest computing density based on x86 standard processors, completely green design, the highest reliability of solutions, complete noiselessness of computing modules, 100 percent compatibility and guaranteed scalability, while ensuring lowest total cost of ownership and small energy consumption. Additionally RSC specialists are experienced in development and implementation of a complete software solution stack for increased effectiveness and usability of supercomputer systems ranging from system software to vertically oriented platforms on the basis of cloud computing technology.

RSC participates in Intel® Technology Provider Program at Platinum level. For additional information please visit www.rscgroup.ru.